

SYNISOMA WETZERA, A NEW SPECIES AND THE FIRST
RECORD OF *SYNISOMA* FROM THE NEW WORLD
(CRUSTACEA: ISOPODA: VALVIFERA: IDOTEIDAE)

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Abstract.—The first species of *Synisoma* (Isopoda: Valvifera: Idoteidae), *S. wetzer*, to be reported from the New World is described from Catalina Island, California.

The idoteid isopod fauna of the northeast Pacific is largely summarized in Menzies (1950), Menzies & Miller (1972), Brusca & Wallerstein (1977, 1979a, 1979b), and Brusca (1983, 1984). The present study reports on a new species of the genus *Synisoma* collected by A. Chess from Catalina Island, California. This represents the first reported record of *Synisoma* from the New World.

The terminology used in this paper follows that of previous idoteid isopod literature (Menzies 1950, Brusca 1983). The following abbreviations are used: USNM, National Museum of Natural History; SDNHM, San Diego Natural History Museum; LACM, Los Angeles County Natural History Museum.

Systematics Paleontology

Order Isopoda Latreille, 1817

Suborder Valvifera Sars, 1882

Family Idoteidae Fabricius, 1798

Subfamily Idoteinae Dana, 1852

Genus *Synisoma* Collinge, 1917

Synisoma wetzer, new species

Fig. 1

Types.—Holotype: female, LACM 87-294.1; 6 (2 ♂, 4 ♀). Paratypes LACM 87-294.2; 8 (4 ♂, 4 ♀). Paratypes to SDNHM (2128–2135); 6 (3 ♂, 3 ♀). Paratypes to USNM (243565).

Type locality.—All specimens are from one locality: California, Santa Catalina Island (33°25.4'N, 118°30.8'W); "Isthmus

Reef"; found on the brown algae *Sargassum palmeri*, and *Cystoseira neglecta*; depth 13 m; 10 Mar 1987; collected by A. Chess (National Marine Fisheries Service, Tubiron, California).

Diagnosis.—Pleotelson longer than wide; all pleomeres fused, without lateral incisions or any trace of sutures dorsally or ventrally; coxal plates not visible in dorsal aspect; cephalon with distinct dorsal tubercle; smooth (without sculpturing), pereon without dorsal keel; antennal flagellum multiarticulate; maxillipedal palp 4-articulate (suture between second and third article obscure); maxillipedal endite with one coupling hook and distal spines and plumose setae; male appendix masculina very long, nearly twice length of pleopod rami.

Description.—Body smooth and elongate, 9–10 times longer than wide (gravid females noticeably wider, but not noticeable longer); length of specimens in type series 3.4–10.6 mm; lightly pigmented, pale brown in alcohol (Fig. 1).

Cephalon: With a distinct, slightly elongate mid-dorsal tubercle; eyes dark, round, on lateral edge of cephalon. Antennule with 3-articulate peduncle and 1-articulate flagellum; flagellum with simple setae and 7 aesthetascs. Antenna with 4-articulate peduncle and 8- to 10-articulate flagellum, the distalmost one or two articles being minute; all flagellar articles with simple setae. Right mandible with 4-toothed incisor; weakly developed lacinia mobilis with one large incisor and a 5 to 6 serrate setal row; and a

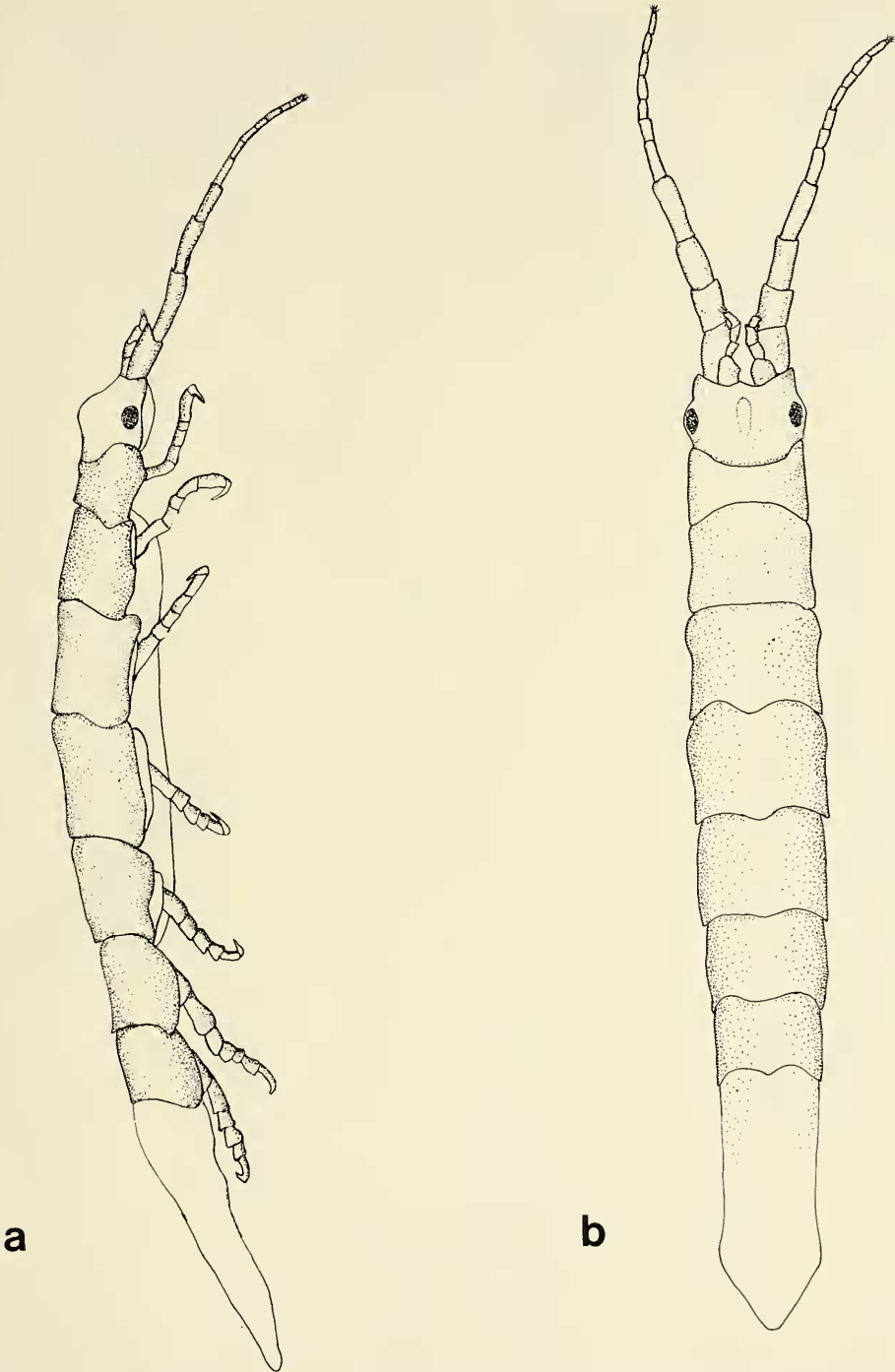


Fig. 1. *Synisoma wetzeriae*, new species (holotype, ♀, LACM (Cat. No. 87-294.1)); a, Rt lateral exterior view (coxal plates are not visible per this view on pereonites 6, 7); b, Dorsal exterior view.

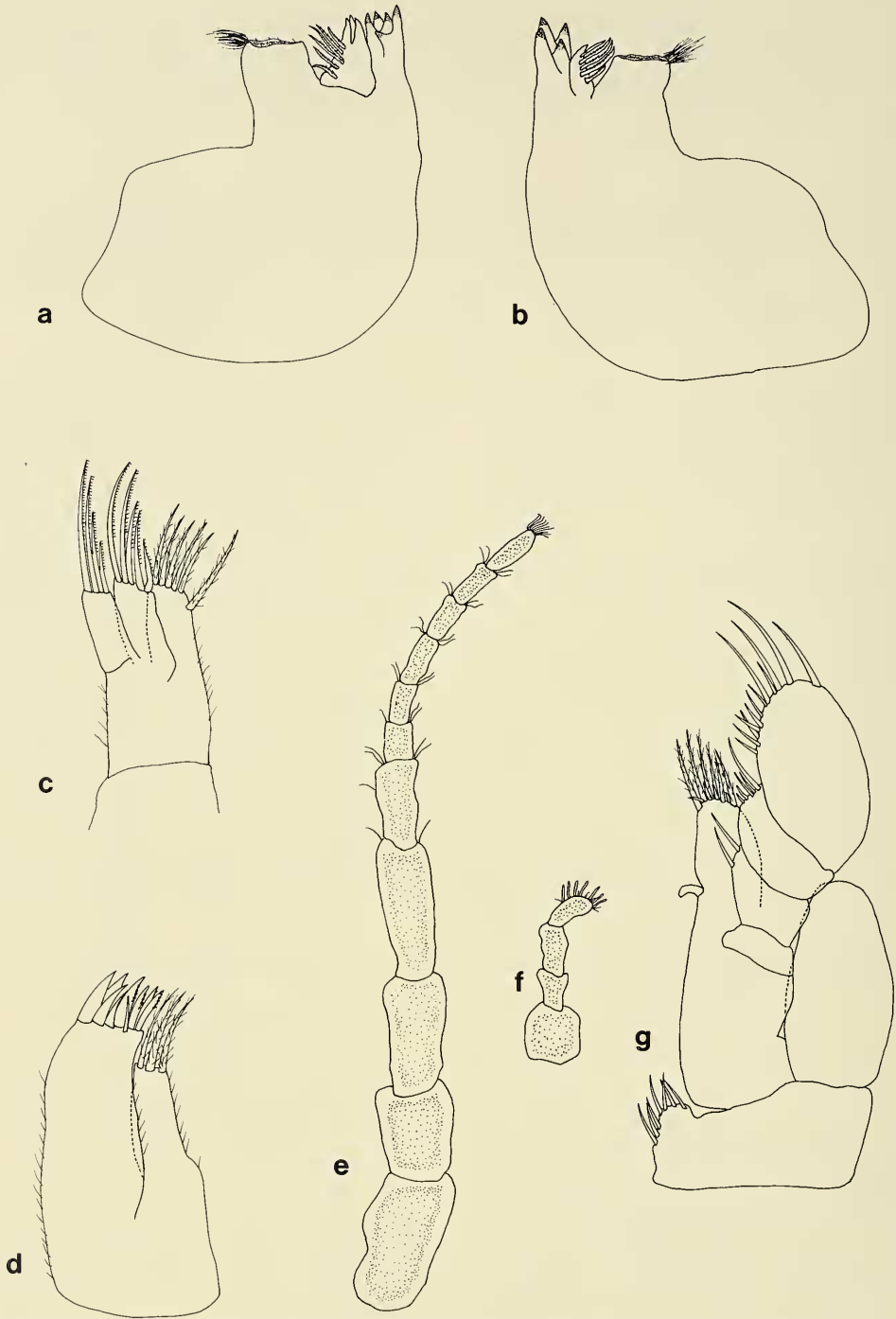


Fig. 2. Mouthparts of *Synisoma wetzeræ*, new species (holotype, ♀, Rt side); a, Lt mandible; b, Rt mandible; c, Maxillule; d, Maxilla; e, Antenna; f, Antennule; g, Maxilliped.

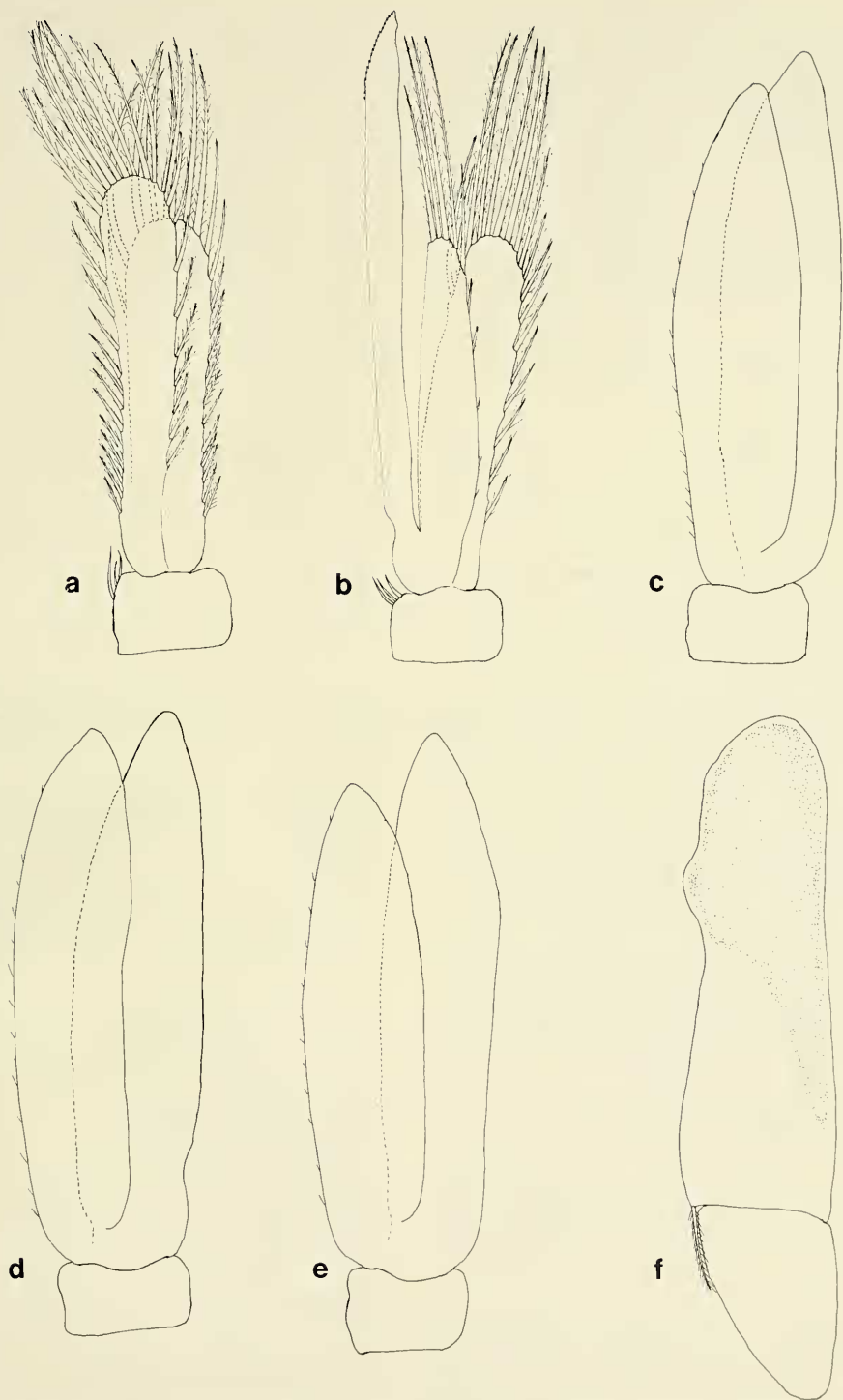


Fig. 3. *Synisoma wetzeræ*, new species (holotype, ♀ (except b–c), Rt side); a, First pleopod; b, Second pleopod (paratype, ♂, LACM (Cat. No. 87-294.2)); c–e, Pleopods 3–5; f, Uropod.

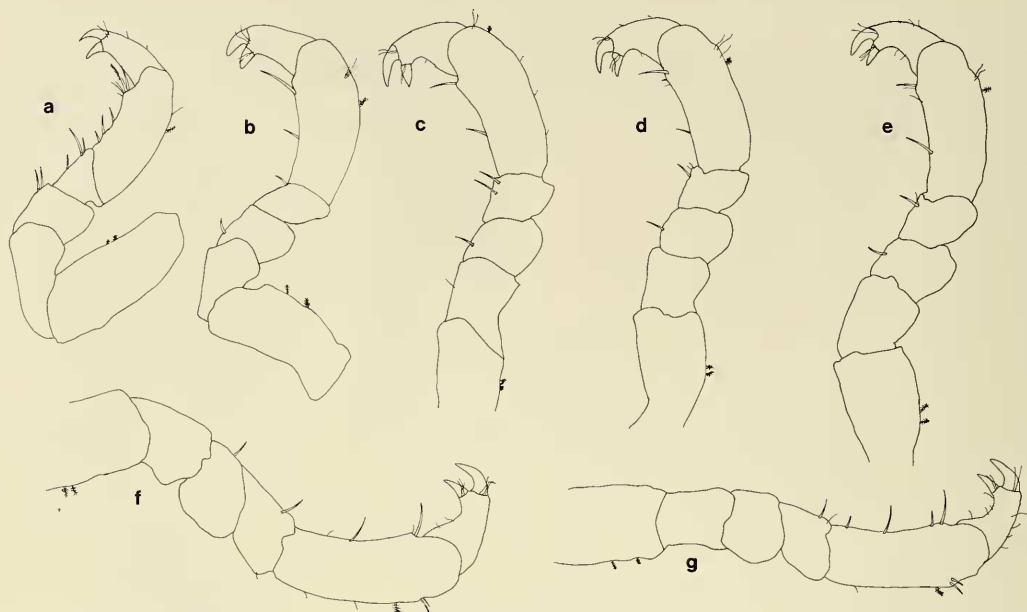


Fig. 4. *Synisoma wetzeræ*, new species (holotype, Rt side); a-g, Pereopods 1-7.

large molar process. Left mandible with 5-toothed incisor; complex lacinia mobilis with 3 large incisors and 5 to 6 serrate setal row; and a less pronounced molar process. Maxillule innerlobe with 3 distal circumplumose setae; outerlobe with 4 large and one small, stout simple setae and 4 stout serrate spines. Maxilla innerlobe with circumplumose setae; medial and outer lobe with 4 to 5 comb setae each. Maxilliped palp 4-articulate, articulation between second and third articles obscure; endite with one coupling hook, 4 apical spines, and 4 to 6 long circumplumose setae (Fig. 2).

Pleon: All pleonal segments fused; no visible sutures. Pleon margins slightly concave for three quarters of its length, but flaring somewhat distally and with subacute posterior margin. Pleotelson 2 to 3 times longer than wide. Pleopods 1-2 with plumose marginal setae on rami and simple setae on inner margins of peduncles. Pleopods 3-5 larger than 1-2, without plumose marginal setae but with a few simple setae along the inner margin of the endopod. Appendix masculinum of male is very large, blade-

shaped, and distally serrate. Uropodal peduncle with one large, stout, plumose, distomedial seta (Fig. 3).

Pereon: Pereonites II-VII longer than pereonite I. Coxal plates small and compact, not visible in dorsal aspect. Pereopods I-VII ambulatory, terminating in a biungulate dactyl with simple setae. All pereopods with small palmate setae on basis and on distal superior margin of propodus (Fig. 4).

Etymology. — *Synisoma wetzeræ* is named for Regina Wetzer, in appreciation of her many years of support and assistance, her interest in isopod systematics, and her long-standing friendship.

Discussion. — There are currently 10 nominate species of *Synisoma*: *S. acuminatum* (Leach, 1815), *S. lancifer* (Miers, 1883), *S. capito* (Rathke, 1837), *S. appendiculata* (Risso, 1816), *S. carinata* (Lucas, 1849), *S. spinosa* Amar, 1957, *S. bellonae* Daguerre de Hureaux, 1968, *S. mediterranea* Rezig, 1989 and *S. nadejda* Rezig, 1989 found in the old world; *S. pacificum* Numura, 1974 occurs in Japanese waters.

Synisoma wetzeræ is most closely similar

in overall body form to *S. acuminatum* and *S. pacificum*. *S. wetzeriae* can be easily distinguished by the shape of the pleotelson, the coxal plates being hidden from view in the dorsal aspect, the large cephalic mid-dorsal process, the lack of a dorsal carina or keel on the pereonites and pleon, and complete fusion of the pleomeres. There is some confusion regarding the number of partially fused pleomeres on the pleotelson of the genus as a whole. Species in the genus have 0, 1, or 3 partially fused pleomers. None are currently known to have separate pleomers.

The genus *Synisoma* is restricted to the Northern Hemisphere. Two species are now known from the Pacific: *S. wetzeriae* from the north-eastern Pacific, and *S. pacificum* from the north-western Pacific. Brusca (1984), in his biogeographic analysis of the Idoteidae, postulated that the genera *Synisoma* and *Colidotea* are sister groups and vicariant descendants of a once widespread circum-global northern Tethyan track fauna. Brusca indicated that the absence of *Synisoma* from the modern New World fauna was anomalous and could only be explained by extinction. The discovery of a living species of *Synisoma* in the eastern Pacific thus corroborates Brusca's historical inferences regarding this genus.

Acknowledgments

I am grateful to R. C. Brusca for bringing this new species to my attention and for providing information and guidance used in the preparation of this paper. Thanks to J. W. Martin and T. Stebbins of the Los Angeles County Museum of Natural History for technical assistance, review of the manuscript and laboratory space. Thanks also to T. Chess who originally collected these specimens and sent them to R. C. Brusca for examination. I also thank W. Hamner for providing the encouragement for this study.

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